

Brent O. Hatch (5715)
Mark F. James (5295)
HATCH, JAMES & DODGE
10 West Broadway, Suite 400
Salt Lake City, Utah 84101
Telephone: (801) 363-6363
Facsimile: (801) 363-6666

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Robert Silver (admitted pro hac vice)
Edward Normand (admitted pro hac vice)
BOIES, SCHILLER & FLEXNER LLP
333 Main Street
Armonk, New York 10504
Telephone: (914) 749-8200
Facsimile: (914) 749-8300

Stuart H. Singer (admitted pro hac vice)
BOIES, SCHILLER & FLEXNER LLP
401 East Las Olas Boulevard – Suite 1200
Ft. Lauderdale, Florida 33301
Telephone: (954) 356-0011
Facsimile: (954) 356-0022

Stephen N. Zack (admitted pro hac vice)
BOIES, SCHILLER & FLEXNER LLP
Bank of America Tower – Suite 2800
100 Southeast Second Street
Miami, Florida 33131
Telephone: (305) 539-8400
Facsimile: (305) 539-1307

Attorneys for The SCO Group, Inc.

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH**

THE SCO GROUP, INC.,

Plaintiff/Counterclaim-Defendant,

v.

INTERNATIONAL BUSINESS
MACHINES CORPORATION,

Defendant/Counterclaim-Plaintiff.

**DECLARATION OF
MARC ROCHKIND**

Case No. 2:03CV0294DAK
Honorable Dale A. Kimball
Magistrate Judge Brooke C. Wells

**FILED IN REDACTED FORM
[ORIGINAL FILED UNDER SEAL]**

1. I have devoted my professional career to computer science, a field in which over the past 39 years, I have developed software, written textbooks, and taught. My specialty is in the area of UNIX operating systems.

2. I received a Bachelor's Degree in Mechanical Engineering from the University of Maryland in 1970, a Masters of Science in Mechanical Engineering from Rutgers in 1972, and a Masters of Science in Computer Science from Rutgers in 1976. I have taught computer science courses at the University of Colorado. Exhibit A contains details of my professional background and publications.

3. I consider myself to have expertise in computer science generally, and specifically on application and system programming, programming languages, software development processes, software design, database systems, graphical user interfaces, and internet applications.

4. I have personal experience in the development of the UNIX operating system. From 1970 to 1982, I worked on UNIX development at AT&T Bell Laboratories. My work involved design and development of the UNIX operating system and of applications running on the UNIX operating system.

5. I wrote *Advanced UNIX Programming*, published in 1985, which was the first textbook to explain in detail how to use UNIX system calls to write applications. I updated *Advanced UNIX Programming* in 2004 to include newer features of UNIX and to include material on Linux and FreeBSD. These books are considered standard references on UNIX operating systems.

6. I was retained by counsel to SCO in May 2005, to analyze the technical evidence in this case, to help prepare the preliminary October and December 2005 Disclosure of Material

Misused by IBM (the "December Submission") and to serve as a consultant and expert witness.

I have since been asked to review the declaration recently submitted by Professor Randall Davis, and this declaration is submitted as a result of that review.

7. I strongly disagree with Professor Davis's assertion (at paragraph 11) that SCO has failed to identify with specificity 198 challenged items in the December Submission. SCO's Submission identifies the technology in issue with specificity, both with respect to disclosures of code and with respect to disclosures of methods and concepts. It provides ample identification to define each technology in question and from which IBM can formulate a defense, if such defense is available.

8. Of the 294 Items in the December Submission, about a third are cases of misused code, and about two-thirds are cases of misused methods and concepts. With respect to disclosures of code, the December Submission provides specific identification of the code that was wrongfully disclosed by IBM, including in many cases providing charts showing precisely where the code had been disclosed. *These disclosures of code are, with a few exceptions, not the subject of IBM's motion or Professor Davis's declaration.*¹

9. The remaining two-thirds of the material identified in the December Submission are methods and concepts. These are specifically identified in the December Submission not only by

¹ IBM notes that SCO "appears not to have even used [CMVC] to prepare its Final Disclosures." That is incorrect. I used CMVC extensively.

REDACTED

summarizing the method or concept implicated, but also, in almost all cases, by identifying the actual written communication that constitutes the disclosure. In other words, the method and concept is fully described in the December Submission and the related materials, which are referenced as sources for each of the enumerated items. In most cases the December Submission also identifies the IBM individuals involved in making the disclosure.

10. Contrary to disclosures of source code, disclosures of methods and concepts neither require an accompanying disclosure of source code, nor is the method and concept defined or identified by source code. Many textbooks on computer programming discuss methods and concepts without providing accompanying source code for actual systems. I strongly disagree with the premise of Professor Davis that version, file, and line of source code must be provided to identify a method and concept, and to prepare a defense to an allegation of misuse. Where IBM disclosed methods and concepts from the Dynix and Dynix/ptx operating systems without providing source code in the disclosures, for example, it is often not possible and certainly not necessary to cite to specific source code in identifying the disclosure. The reason is simple: the material that was improperly disclosed to Linux was the method or concept itself, not particular lines of source code from Dynix/ptx.

11. Moreover, for many of the challenged items in the December Submission, there is code imbedded in the disclosure email or other document, or found at a referenced URL (internet website) address. In addition, some of the methods and concepts relate to other disclosures that do implicate code.

REDACTED

12. I have prepared and attach as Exhibit B a summary chart of the 198 challenged disclosures. This chart first shows where the actual disclosure, such as an email from an IBM engineer to a Linux programmer discussing the protected material, has been provided. (See column A.) In these cases, to use Professor Davis's analogy, the proverbial needle itself is identified, verbatim, in the December Submission. The chart also identifies those disclosures as to which there is accompanying source code for the item contained in either the text of the disclosure, a document or URL address referenced in the disclosure, or in related code that is the subject of a separate disclosed item. (See column B.) In those cases, the origin of the method and concept in protected material (often Dynix/ptx) is supported by such source code. In yet other cases, the disclosure does not reference specific code, but contains in the face of the communication an admission or other statement that directly links the method and concept as coming from protected material such as System V, or a derivative such as AIX or Dynix/ptx. (See column C.) Finally, the chart indicates in Column D those disclosures for which file locations in Linux are provided relating to the challenged method and concept.²

13. Even the one example cited by Professor Davis in his Declaration, Item 146, does not support his point that it "provides no meaningful information about what IBM is alleged to have done wrong."

REDACTED

² IBM criticizes the lack of versions in these references. However, the files referenced can be found, in most cases, in any version of Linux issued after the disclosure.

REDACTED

16. IBM alleges in its reply brief that "it is beyond reasonable debate that SCO acted willfully in not specifying its claims" (at 10) and that "SCO has declined, as a practical matter, to tell IBM what is in dispute" (at 9).

17. I am familiar with the technical evidence. I played the largest, although not an exclusive, role in assembling it, so I am in the best position to know that IBM's allegation is false. For each of the 294 Items, I did everything I could to ensure that everything we had was disclosed and that it was organized in the most accessible possible manner. Counsel to SCO made it very clear that that was what they wanted me to do. I made sure that every Tab containing a publicly available email included the complete URL and I also made sure that not only would versions, lines, and files be cited where available, as they were in the October Interim Submission, but that the code itself would be shown and that the misused lines would be highlighted and indicated with red lines drawn between the columns. As I explain above, code copying is properly described one way (version, file, and line), and a different approach is used for methods and concepts.

18. I note that there were some candidate Items that, in my opinion, did not meet my professional standards for completeness, clarity, and specificity. I told SCO's counsel that these should be rejected, and in all cases they took my advice.

19. In short, the 198 Items challenged in IBM's reply brief are as complete as possible, and constitute a specific identification of the misappropriated technology at issue.

20. I will timely submit my expert report, which will offer fully explored opinions about IBM's disclosures formed during the work I have done over the last year.

21. I declare under the penalty of perjury that the foregoing is true and correct.

A handwritten signature in black ink, appearing to read 'Marc Rochkind', written over a horizontal line.

Marc Rochkind

Date: *9 April 2006*

Place: *Boulder, CO*

CERTIFICATE OF SERVICE

Plaintiff, The SCO Group, Inc., hereby certifies that a true and correct copy of the foregoing Declaration of Marc Rochkind was served by mail on Defendant International Business Machines Corporation on the 10th day of April, 2006, by U.S. Mail to:

David Marriott, Esq.
Cravath, Swaine & Moore LLP
Worldwide Plaza
825 Eighth Avenue
New York, New York 10019

Donald J. Rosenberg, Esq.
1133 Westchester Avenue
White Plains, New York 10604

Todd Shaughnessy, Esq.
Snell & Wilmer LLP
1200 Gateway Tower West
15 West South Temple
Salt Lake City, Utah 84101-1004

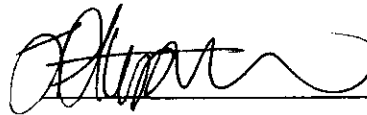
A handwritten signature in black ink, appearing to read "David Marriott", is written over a horizontal line.

EXHIBIT A

Marc Rochkind

Marc Rochkind received a BS in Mechanical Engineering from the University of Maryland in 1970, an MS in Mechanical Engineering from Rutgers in 1972, and an MS in Computer Science from Rutgers in 1976.

From 1970 to 1982 he worked at AT&T Bell Laboratories as a Member of Technical Staff and Technical Supervisor. Starting in 1972 he began working on development of the UNIX system. He contributed to the architecture and implementation of the Programmer's Workbench version of UNIX (PWB), several UNIX commands, a table-driven data-validation system that served as a model for the "awk" programming language, and the Source Code Control System (SCCS).

His paper on SCCS, delivered at the first IEEE Software Engineering conference, won an award from IEEE a decade later as the most significant from the first conference. SCCS has formed a basis for RCS, CVS, SourceSafe, PVCS, and other version control systems.

In 1982 Mr. Rochkind started one of the early software companies to take advantage of the emergence of the IBM PC as the dominant personal computer. In 1988 he invented XVT, the first developer tool to allow programmers to write portable, but native, graphical user interfaces for Windows, Macintosh OS, OS/2, X/Motif, OpenLook, and character displays. Methods and concepts from XVT have influenced contemporary user-interface systems such as Java AWT and KDE Qt.

Mr. Rochkind's publications include a 1985 textbook, *Advanced UNIX Programming* (Prentice-Hall), which explained how to program UNIX applications at the system-call level. In 1988 he authored *Advanced C Programming for Displays*, also published by Prentice-Hall. He rewrote *Advanced UNIX Programming* in 2004 to bring it up to date and to specifically cover Linux and FreeBSD. In the 2004 Linux Journal 2004 Readers' Choice Awards, *Advanced UNIX Programming* won third place for "Most Indispensable Linux Book."

Mr. Rochkind has delivered numerous technical papers on UNIX, software development, and graphical user interfaces, and has taught professional seminars on UNIX and computer science at the University of Colorado.

In addition to his work as a consultant and author, Mr. Rochkind continues to develop computer software. He has designed and implemented applications for UNIX, Windows, Macintosh OS X, and Linux servers, including a high-capacity web-based grading and report-card application for a large school district, applications for digital photography, and database utilities.

Marc Rochkind's UNIX-Related Publications

Rochkind, M. J., "The Source Code Control System," *IEEE Transactions on Software Engineering*, Vol. SE-1, Number 4, pp. 364-370, Dec., 1975.

Rochkind, M. J., "A Table-Driven Data Validator," *Proc. of COMPCON FALL 1980*, IEEE Catalog No. 80CH1598-2C.

Bergeron, R. F. and Rochkind, M. J., "Software Tools and Components," *Bell System Technical Journal*, 61(6), July-Aug., 1982.

Rochkind, M. J., "Structure of a Database File System for the UNIX Operating System," *Bell System Technical Journal*, 61(9), Nov., 1982.

Rochkind, M. J., "Evolution of UNIX Within Bell Laboratories," *UNIX Symposium*, Sydney, Australia, May 1-3, 1984.

Rochkind, M. J., *Advanced UNIX Programming*, Prentice-Hall, 1985.

Rochkind, M. J., "Pick, Coherent, and THEOS," *BYTE Inside the IBM PCs*, 10(11), Fall, 1985.

Rochkind, M. J., *Advanced C Programming for Displays*, Prentice-Hall, 1988.

Rochkind, M. J., "XVT: A Virtual Toolkit for Portability Between Window Systems," *Proceedings of the Winter 1989 USENIX Conference*, Jan. 30-Feb. 3, 1989, San Diego, CA, USA, pp. 151-163.

Rochkind, M. J., "A Unified Programming Interface for Character-Based and Graphical Window Systems," *Proceedings of the Summer 1989 USENIX Conference*, June 12-16, 1989, Baltimore, MD, USA, pp. 109-117.

Rochkind, M. J., "An extensible virtual toolkit (XVT) for portable GUI applications," *IEEE Compcon Spring '92 Thirty-Seventh IEEE Computer Society International Conference, Digest of Papers*, 24-28, San Francisco, CA, USA, Feb., 1992.

Farrand, A. B., Rochkind, M., Chauvet, J.-M., Tognazzini, B., and Smith, D. C., "Common Elements in Today's Graphical User Interfaces: The Good, the Bad, and the Ugly," *Proceedings of ACM INTERCHI'93 Conference on Human Factors in Computing Systems*, Amsterdam, The Netherlands, pp. 470-473.

Rochkind, M. J., "Has UNIX Programming Changed in 20 Years?," *informit.com*, Addison Wesley Professional, May 28, 2004.

Rochkind, M. J., *Advanced UNIX Programming, 2nd Ed.*, Addison-Wesley, 2004.

EXHIBIT B

Misused Material by Item Number in December Submission	Actual Disclosure of Code or Method and Concept Provided (Column A)	Source Code Identified in Disclosure, Referenced Document, URL, or Related Item (Column B)	Link to Protected Materials (e.g., Dynix) Expressly Provided in Disclosure (Column C)	File Locations in Linux Identified (Column D)
3	X		X	X
4	X		X	X
5			X	X
6	X	X	X	X
7	X		X	X
8	X		X	X
9	X		X	X
10			X	
11		X	X	X
12			X	X
13	X		X	X
14	X		X	X
15	X		X	X
16		X	X	X
17			X	X
18		X	X	X
19			X	X
20			X	
21	X		X	X
22	X		X	X
23	X		X	X
24			X	
25			X	X
26	X		X	X
27	X	X	X	X
28			X	X
29	X	X	X	X
30	X		X	X
31			X	X
32			X	
33			X	X
34	X		X	X
35	X		X	X
36	X		X	X
37	X		X	X
38	X		X	X
39	X		X	X
40	X		X	X
41	X		X	X
42	X		X	X
43	X		X	X

Misused Material by Item Number in December Submission	Actual Disclosure of Code or Method and Concept Provided (Column A)	Source Code Identified in Disclosure, Referenced Document, URL, or Related Item (Column B)	Link to Protected Materials (e.g., Dynix) Expressly Provided in Disclosure (Column C)	File Locations in Linux Identified (Column D)
44	X		X	X
45	X		X	X
46	X		X	X
47	X		X	X
48	X		X	X
49	X		X	X
50	X		X	X
51	X		X	X
52	X		X	X
53	X	X	X	X
54	X		X	X
55	X	X	X	X
56	X		X	X
57	X		X	X
58	X		X	X
59	X		X	X
60	X		X	X
61	X		X	X
62	X		X	X
63	X		X	X
64	X		X	X
65	X		X	X
66	X		X	X
67	X		X	X
68	X		X	X
69	X		X	X
70	X		X	X
71	X		X	X
72	X		X	X
73	X		X	X
74	X		X	X
75	X		X	X
76	X		X	X
77	X		X	X
78	X		X	X
79	X	X	X	X
80	X		X	X
81	X		X	X
82	X		X	X
83	X		X	X
84	X		X	X
85	X		X	X
86	X		X	X

Misused Material by Item Number in December Submission	Actual Disclosure of Code or Method and Concept Provided (Column A)	Source Code Identified in Disclosure, Referenced Document, URL, or Related Item (Column B)	Link to Protected Materials (e.g., Dynix) Expressly Provided in Disclosure (Column C)	File Locations in Linux Identified (Column D)
87			X	X
88	X		X	X
89	X		X	X
90	X		X	X
91			X	
92			X	
93	X		X	X
94			X	X
95	X		X	X
96			X	X
97			X	X
98	X		X	X
99	X		X	X
100			X	X
101			X	X
102			X	X
103			X	X
104			X	X
105			X	X
106			X	X
107			X	X
108			X	X
109	X	X	X	X
110	X		X	X
111			X	X
112			X	
143		X	X	X
144			X	X
145			X	
146	X	X	X	X
147			X	X
148			X	X
149	X		X	X
165	X		X	
166	X		X	X
167			X	X
168	X		X	
169	X		X	
170			X	X
171	X		X	
172	X		X	
173			X	
174	X		X	

Misused Material by Item Number in December Submission	Actual Disclosure of Code or Method and Concept Provided (Column A)	Source Code Identified in Disclosure, Referenced Document, URL, or Related Item (Column B)	Link to Protected Materials (e.g., Dynix) Expressly Provided in Disclosure (Column C)	File Locations in Linux Identified (Column D)
175			X	X
176	X		X	X
177	X		X	
178	X		X	X
179			X	X
180			X	X
181	X		X	X
182		X	X	X
186			X	X
187			X	X
188			X	X
189			X	X
190			X	X
191			X	X
192			X	X
193			X	X
232	X			X
233	X		X	X
234	X			X
235	X		X	X
236	X		X	X
237	X		X	X
238	X		X	X
239	X			X
240	X		X	X
241	X		X	X
242	X	X	X	X
243	X	X	X	X
244	X			X
245	X	X	X	X
246	X			X
247				X
248	X			X
249	X			X
250	X			X
251	X			X
252	X		X	X
253	X		X	X
254	X		X	X
255	X			X
256	X			X
257	X		X	X
258	X		X	X

Misused Material by Item Number in December Submission	Actual Disclosure of Code or Method and Concept Provided (Column A)	Source Code Identified in Disclosure, Referenced Document, URL, or Related Item (Column B)	Link to Protected Materials (e.g., Dynix) Expressly Provided in Disclosure (Column C)	File Locations in Linux Identified (Column D)
259	X		X	X
260				X
261	X			X
262	X		X	X
263	X			X
264	X		X	X
265				X
266	X		X	X
267	X			X
268	X			X
269	X		X	X
270	X		X	X
271	X		X	
279	X		X	X
280			X	
281			X	
282			X	
283	X		X	
284	X		X	
285	X		X	
286	X		X	
287	X		X	
288	X		X	
289			X	
290	X		X	
291			X	
292			X	
293			X	

Item Numbers 1, 113-142, 150-164, 183-185, 194-203, 205-231, and 272-278 are not challenged by IBM, and IBM's challenges to Item Numbers 2 and 204 were withdrawn. SCO withdrew Item Number 294.

EXHIBIT C

[FILED UNDER SEAL]